

## REMARKS

Claims 18 and 19 have been canceled. Thus, claims 1, 7, 15 and 17 are pending for further prosecution in the present application. Arguments are provided as to why the claims of the present application distinguish over the prior art of record. Accordingly, Applicant respectfully submits that the present application is in condition for allowance.

### **I. Claim Rejections - 35 USC §103(a)**

- A. *In the FINAL Office Action dated January 6, 2012, claims 1 and 7 are rejected under 35 USC §103(a) as being obvious over U.S. Patent No. 6,531,396 B1 issued to Chi et al. in view of U.S. Patent No. 6,238,494 issued to Segal.*

Applicant respectfully submits that, conventionally, an ingot made of Ni-Pt alloy was extremely hard and brittle and that, when this Ni-Pt alloy ingot was rolled for processing into a sputtering target, there was a problem in that intergranular cracking would occur and that it was not possible to produce a flat and uniform target. This was the state of the art at the time the present invention was made. The cited prior art does not overcome or even try to overcome or address the above referenced problem much less provide a solution.

In contrast, the present invention addresses and solves the above referenced problem by lowering the hardness of a Ni-Pt alloy by increasing the purity level of the Ni-Pt alloy, thereby enabling rolling of the Ni-Pt alloy without generation of intergranular cracking. This resulted in stable and efficient production thereof which was not previously capable by the prior art. Thus, the invention provided a clear advancement of the art which at the time the present invention was made was not obvious to one of ordinary skill in the art and was unexpected.

Chi et al. disclose a Ni-Pt alloy target, and as an alternative, the shared use of a pure Ni target and a separate pure Pt target for co-sputtering. With respect to the Ni-Pt alloy target, Chi

et al. disclose, as the component composition of the Ni-Pt alloy target, Ni content of 90-99% and Pt content of 1-10%. Nevertheless, claims 1 and 7 of the present application require a Ni-Pt alloy sputtering target having a purity of 4N (99.99%) or higher; Chi et al. do not provide a description concerning purity of their Ni-Pt alloy composition. Moreover, Chi et al. fail to provide any teaching, suggestion or motivation to one of ordinary skill in the art as to how to address the problem of the Ni-Pt alloy being hard and brittle and difficult to roll. Most importantly, Chi et al. completely fail to teach or suggest to one of ordinary skill in the art that it is possible to lower the hardness of a Ni-Pt alloy by increasing the purity of the alloy. This is not disclosed by any reference of record in the present application. Accordingly, Chi et al. fail to make obvious a concept of increasing the purity of the Ni-Pt alloy target to a 4N level as required by claims 1 and 7 of the present application.

Chi et al. disclose co-sputtering a pure Ni target and a pure Pt target to form a Ni-Pt silicide film. Here, based on the foregoing description of “pure” Ni target and “pure” Pt target, it is concluded and reasoned in the FINAL Office Action that Chi et al. are seeking to obtain a thin film of high purity (to use a target of high purity). Applicant respectfully submits that this is an error and respectfully submits that one of ordinary skill in the art understands that the disclosure of the foregoing “pure” Ni target is referring to Ni being used as an elementary metal rather than a Ni alloy. To begin with, it is clear that Chi et al. fail to provide any kind of description or teaching regarding the purity of the target or thin film. Accordingly, Applicant respectfully submits that Chi et al. fail to suggest a high purity Ni-Pt alloy target of 4N purity and that it is an error to conclude otherwise.

With respect to Segal, a final step in the production process required by Segal is recrystallization annealing of a rolled plate (see column 1, lines 39-42, and column 5, lines 7-20).

Thus, the production process disclosed in Segal is not the same as the production process of the Ni-Pt alloy of the present invention. The structure of any Ni-Pt alloy target made in accordance to the teachings of Chi et al. as modified by Segal would have a recrystallized structure, and is not the “melted, cast and rolled target structure” required by the claims of the present application.

Accordingly, a sputtering target made in accordance to Chi et al. as modified according to Segal would have failed to teach, disclose, suggest or provided a motivation for the features required by claims 1 and 7 of the present application (4N purity, level of impurity content, Vickers hardness, and structure), nor would have such a combination have offered any motivation such that the present invention as required by claims 1 and 7 could have been conceived by or obvious to one of ordinary skill in the art at the time the present invention was made. Accordingly, Applicants respectfully submit that claims 1 and 7 of the present application are not obvious over Chi et al. in view of Segal.

Still further, “rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” See *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) quoted with approval in *KSR Int’l. Co. v. Teleflex Inc.*, 550 U.S. 398, 417-18 (2007). Applicant respectfully submits that articulated reasoning with some rational underpinning to support a legal conclusion of obviousness has not been provided with respect why one of ordinary skill in the art at the time the present invention was made would have modified the teachings of Chi et al. according to Segal and further improved purity of a Ni-Pt alloy to 4N or above. Also, there is no rational underpinning as to why one of ordinary skill in the art would have subjected a brittle Ni-Pt alloy ingot to rolling when it was known that an ingot made

specifically of Ni-Pt alloy was extremely hard and brittle and that, when such a Ni-Pt alloy ingot was rolled for processing into a sputtering target, there was a problem in that intergranular cracking would occur and that it was not possible to produce a flat and uniform target. Yet further, neither of the cited references discloses to one of ordinary skill in the art that this problem can be addressed and overcome by increasing purity of a Ni-Pt alloy to at least a 4N level. Without such a teaching, Applicant respectfully submits that it would not have been obvious for one of ordinary skill in the art to arrive at the invention recited in claims 1 and 7 of the present application based on the cited prior art.

Still further, the Federal Circuit has repeatedly warned against the use of an Applicant's disclosure as a blueprint to reconstruct the claimed invention out of isolated teachings in the prior art. See, for instance, Grain Processing Corp. v. American Maize-Products, 840 F.2d 902, 5 USPQ2d 1788 (Fed. Cir. 1988). Also see *In re Kamm*, 452 F.2d 1052, 1056-57 (C.C.P.A. 1972) (holding that it is improper to reconstruct claims in a piecemeal fashion by picking and choosing from the prior art using applicant's disclosure as a blueprint); *Texas Instruments, Inc. v. United States Int'l Trade Comm'n*, 819 F.2d 1100, 1108 (Fed. Cir. 1988) ("In determining obviousness, therefore, the inquiry is not whether each element existed in the prior art, but whether the prior art made obvious the invention as a whole."); and *KSR Int'l v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (explaining that "there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness" to guard against falling prey to improper hindsight).

As stated by the Federal Circuit, a critical step in analyzing the patentability of claims pursuant to a §103 rejection is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references. Close

adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one “to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher.”

Applicant respectfully submits that the only reason for modifying the Ni-Pt alloy to have a 4N purity or higher and to adjust processing based on only selected teachings of Segal for purposes of arriving at the present invention derives from impermissible hindsight of Applicant’s own disclosure.

For all of the above stated reasons, Applicant respectfully requests reconsideration and removal of the rejection of claims 1 and 7 of the present application as being obvious over Chi et al. in view of Segal.

*B. In the FINAL Office Action dated January 6, 2012, claim 18 is rejected under 35 USC §103(a) as being obvious over U.S. Patent No. 2,269,497 issued to Vilensky.*

Claim 18 has been canceled. Applicant respectfully requests removal of the rejection.

## **II. Allowable Subject Matter**

In the Office Action, claims 15 and 17 were stated as reciting patentable subject matter.

Applicant respectfully submits that claims 1 and 7 are additionally patentable for reasons discussed above.

## **III. Double Patenting**

Claims 18 and 19 have been canceled. Applicant respectfully submits that this objection is now moot.

#### **IV. Conclusion**

In view of the above amendments and remarks, Applicant respectfully submits that the rejections have been overcome and that the present application is in condition for allowance.

Thus, a favorable action on the merits is therefore requested.

Please charge any deficiency or credit any overpayment for entering this Amendment to our deposit account no. 08-3040.

Respectfully submitted,  
Howson & Howson LLP  
Attorneys for Applicants

By /William Bak/  
William Bak  
Reg. No. 37,277  
501 Office Center Drive  
Suite 210  
Fort Washington, PA 19034  
(215) 540-9216